FINAL REPORT
MARCH 2005

REPORT NO. 04-04A

TRANSPORTABILITY TESTING OF THE M872 A4 SEMI-TRAILER, TP-94-01, REVISION 2, JUNE 2004 "TRANSPORTABILITY TESTING PROCEDURES"

Prepared for:

Program Executive Office
Combat Support & Combat Service Support
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FOR THE DIRECTOR:

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REPORT NO. 04-04A **MARCH 2005**
TRANSPORTABILITY TESTING OF THE
M872 A4 SEMI-TRAILER, TP-94-01, REV. 2, JUNE 2004
"TRANSPORTABILITY TESTING PROCEDURES"

ABSTRACT

The U.S. Army Defense Ammunition Center (DAC), Validation Engineering Division (SJMAC-DEV), was tasked by the Program Manager Trailers to conduct transportability testing on the M872 A4 Semi-Trailer manufactured by Talbert Manufacturing, Inc., Rensselaer, Indiana. The testing was conducted in accordance with TP-94-01, Revision 2, June 2004 "Transportability Testing Procedures." The testing included Hazard Course, Road Trip, Panic Stops, and Washboard Course.

The objective of the testing was to evaluate the M872 A4 Semi-Trailer when transportability tested in accordance with TP-94-01, Revision 2, June 2004.

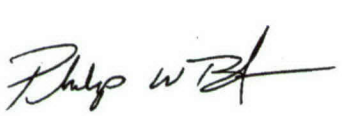
The significant changes in the currently tested trailer over the previously tested trailer included:

a. Relocation of the tie-down rings from the trailer deck to the trailer side rail.

b. Removal of the steel side channels and replacing them with wood deck boards. The trailer now has a full width wood deck.

The M872 A4 Semi-Trailer tie-down rings and anchors performed adequately during testing. The test loads were effectively and efficiently secured utilizing the tie-down provisions as designed. As currently designed, the M872 A4 Semi-Trailer is adequate for transport of bulk ammunition.

Prepared by:



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U.S. ARMY DEFENSE AMMUNITION CENTER

VALIDATION ENGINEERING DIVISION
MCALESTER, OK 74501-9053

REPORT NO. 04-04A
TRANSPORTABILITY TESTING OF THE M872 A4 SEMI-TRAILER, TP-94-01, REVISION 2, JUNE 2004 "TRANSPORTABILITY TESTING PROCEDURES"

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PART 1 – INTRODUCTION

A. BACKGROUND. The U.S. Army Defense Ammunition Center (DAC), Validation Engineering Division (SJMAC-DEV), was tasked by the Program Manager Trailers to conduct transportability testing on the M872 A4 Semi-Trailer manufactured by Talbert Manufacturing, Inc., Rensselaer, Indiana. The testing was conducted in accordance with TP-94-01, Revision 2, June 2004 "Transportability Testing Procedures."

B. AUTHORITY. This test was conducted IAW mission responsibilities delegated by the U.S. Army Joint Munitions Command (JMC), Rock Island, IL. Reference is made to the following:

1. AR 740-1, 15 June 2001, Storage and Supply Activity Operation.

2. OSC-R, 10-23, Mission and Major Functions of U.S. Army Defense Ammunition Center (DAC) 21 Nov 2000.

C. OBJECTIVE. The objective of the testing was to evaluate the M872 A4 Semi-Trailer, when transportability tested in accordance with TP-94-01, Revision 2, June 2004.

D. CONCLUSION. The significant changes in the currently tested trailer over the previously tested trailer included:

1. Relocation of the tie-down rings from the trailer deck to the trailer side rail.
2. Removal of the steel side channels and replacing them with wood deck boards. The trailer now has a full width wood deck.

The M872 A4 Semi-Trailer tie-down rings and anchors performed adequately during testing. The test loads utilized were effectively and efficiently secured using the tie-down provisions as designed. As, currently designed the M872 A4 Semi-Trailer is adequate for transport of bulk ammunition.

PART 2 - ATTENDEES

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PART 3 - TEST EQUIPMENT

1. M872 A4 Semi-Trailer
   Manufactured by: Talbert Manufacturing, Inc., Rensselaer, Indiana
   Date of Manufacture: 1/23/2003
   VIN 40FEO 443041022949
   Capacity: 34 ton
   Weight: 19,860 pounds

2. Truck, Tractor, MTV, M1088 A1
   NSN: 2320 01 447 3893
   Weight: 19,340 pounds

PART 4 - TEST PROCEDURES

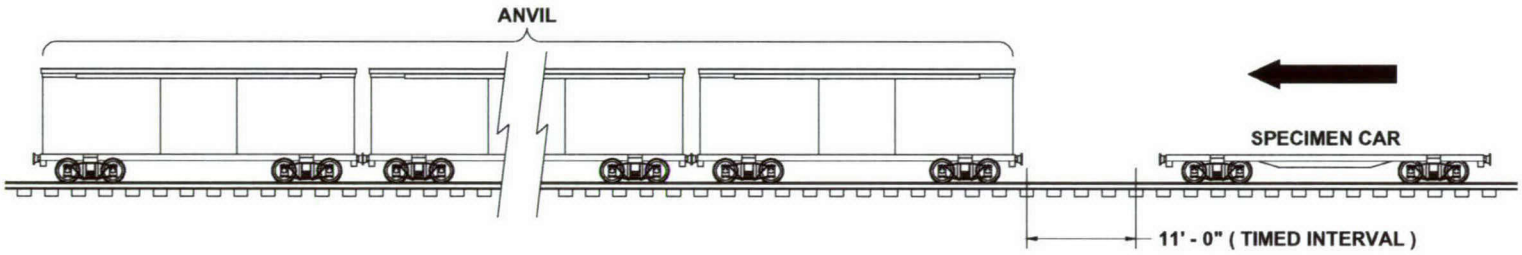
The test procedures outlined in this section were extracted from TP-94-01, "Transportability Testing Procedures," Revision 2, June 2004, for validating tactical vehicles and outloading procedures used for shipping munitions by tactical truck, railcar, and ocean-going vessel.

Inert (non-explosive) items were used to build the load. The test loads were prepared using the blocking and bracing procedures proposed for use with munitions (***see Part 6 for procedures***). The weight and physical characteristics (weights, physical dimensions, center of gravity, etc.) of the test loads were similar to live (explosive) ammunition. The following tests identified are normally required for transportability certification. However, not all tests will be required for some specific items.

A. RAIL TEST. RAIL IMPACT TEST METHOD. The test load or vehicle will be secured to a flatcar. The equipment needed to perform the test will include the specimen (hammer) car, four empty railroad cars connected together to serve as the anvil, and a railroad locomotive. The anvil cars will be positioned on a level section of track with air and hand brakes set and with draft gears compressed. The locomotive unit will push the specimen car toward the anvil at a predetermined speed, then disconnect from the specimen car approximately 50 yards away from the anvil cars allowing the specimen car to roll freely along the track until it strikes the anvil. This will constitute an impact. Impacting will be accomplished at speeds of 4, 6, and 8.1 mph in one direction and at a speed of 8.1 mph in the reverse direction. The tolerance for the speeds is plus 0.5 mph, minus 0.5 mph for the 4 mph and 6 mph impacts, and plus 0.5 mph, minus 0 mph for the 8.1 mph impacts. The impact speeds will be determined by using an electronic counter to measure the time for the specimen car to traverse an 11-foot distance immediately prior to contact with the anvil cars (see Figure 1).

ASSOCIATION OF AMERICAN RAILROADS (AAR)

STANDARD TEST PLAN



4 BUFFER CARS (ANVIL)
WITH DRAFT GEAR COMPRESSED AND AIR BRAKES IN A SET POSITION

ANVIL CAR TOTAL WT. 250,000 LBS (APPROX)

SPECIMEN CAR IS RELEASED BY SWITCH ENGINE TO ATTAIN: IMPACT NO. 1 @ 4 MPH
IMPACT NO. 2 @ 6 MPH
IMPACT NO. 3 @ 8.1 MPH

THEN THE CAR IS REVERSED AND RELEASED BY SWITCH ENGINE TO ATTAIN:

IMPACT NO. 4 @ 8.1 MPH

Figure 1. Rail Impact Sketch

B. ON/OFF ROAD TEST.

1. HAZARD COURSE. The test load or vehicle will be transported over the 200-foot-long segment of concrete-paved road consisting of two series of railroad ties projecting 6 inches above the level of the road surface. The hazard course will be traversed two times (see Figure 2).

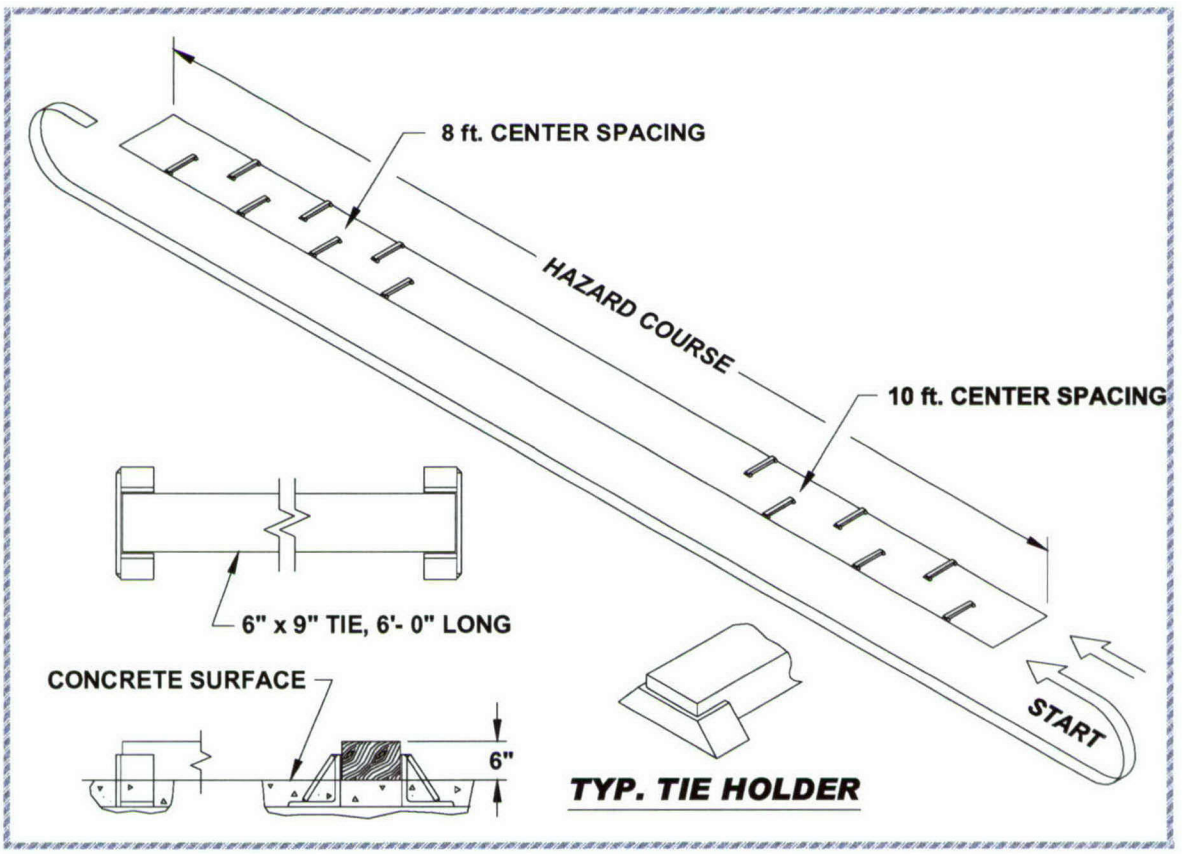


Figure 2. Hazard Course Sketch

a. The first series of 6 ties are spaced on 10-foot centers and alternately positioned on opposite sides of the road centerline for a distance of 50 feet.

b. Following the first series of ties, a paved roadway of 75 feet separates the first and second series of railroad ties.

c. The second series of 7 ties are spaced on 8-foot centers and alternately positioned on opposite sides of the road centerline for a distance of 48 feet.

d. The test load is driven across the hazard course at speeds that will produce the most violent vertical and side-to-side rolling reaction obtainable in traversing the hazard course (approximately 5 mph).

2. ROAD TRIP. The test load or vehicle will be transported for a distance of 30 miles over a combination of roads surfaced with gravel, concrete, and asphalt. The test route will include curves, corners, railroad crossings and stops and starts. The test load or vehicle will travel at the maximum speed for the particular road being traversed, except as limited by legal restrictions.

3. PANIC STOPS. During the road trip, the test load or vehicle will be subjected to three (3) full airbrake stops while traveling in the forward direction and one in the reverse direction while traveling down a 7 percent grade. The first three stops are at 5, 10, and 15 mph while the stop in the reverse direction is approximately 5 mph. This testing will not be required if the Rail Impact Test is performed.

4. WASHBOARD COURSE. The test load or vehicle will be driven over the washboard course (see Figure 3) at a speed that produces the most violent response in the vertical direction.

C. OCEAN-GOING VESSEL TEST. 80-DEGREE TILT TEST. The test load (specimen) shall be positioned on level terrain with the bottom corner fittings resting on timbers so the entire container is supported solely by the bottom corner fittings. The timbers shall be oriented parallel to the end rails of the container and extend 2 feet beyond the corner fittings on each side. Using two mobile cranes and appropriate rigging, the container shall be rotated (tilted) using the bottom corner fittings on one side as a fulcrum. The rigging (slings) of one

crane shall be attached to the bottom corner fittings of the long side and the rigging (slings) of the second crane shall be attached to the top corner fittings on the opposite side. The tilting shall be accomplished by lifting the bottom corner fittings with the first crane so the container rotates about the opposite bottom corner fittings (fulcrum). Lifting/rotating by the first crane is continued until the center of gravity passes over the fulcrum, at which point the second crane shall provide support to the container and lower the container to the 80 degrees, plus or minus 2 degrees position. Rotation shall be accomplished smoothly at a slow speed so the container sidewall is subjected only to the static force of the interior load. The crane booms shall be adjusted to maintain a rear vertical suspension of the rigging at all times. In the case of end-opening type containers, at least one door (lower side of tilted container) must be closed and fastened throughout the test. The container shall be held in the tilted position for a minimum of two minutes. At which time, observations of both the container structure and the interior load shall be made. When the test is completed, the container shall be returned to its upright position using the same manner and care in handling.

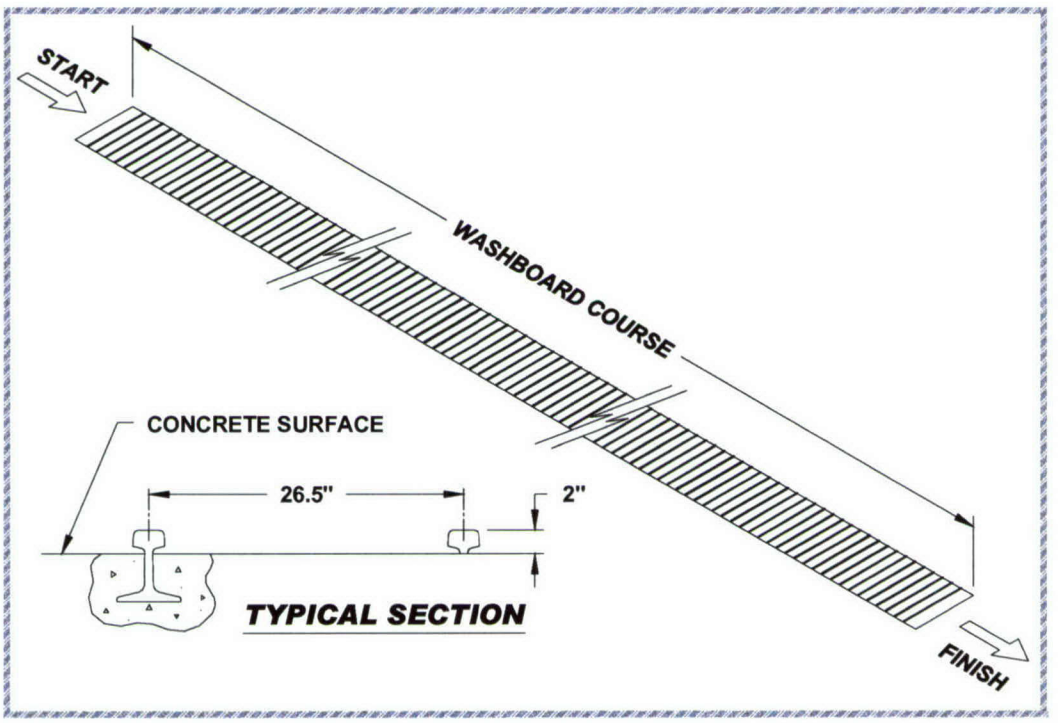


Figure 3. Washboard Course Sketch

PART 5 - TEST RESULTS

5.1

Testing Date: 1 March 2005

Test Specimen: M872 A4 Semi-Trailer

Payload: Four MLRS Pods

Test Gross Weight: 60,200 pounds (including the M872 A4 Semi-Trailer, M1088 Tractor and the MLRS Pods)

Payload Weight: 21,000 pounds

Photo 1. MLRS Pods on the M872 A4 Semi-Trailer

A. ON/OFF ROAD TESTS.

1. HAZARD COURSE.

Photo 2. Hazard Course Testing of the M872 A4 Semi-Trailer with the MLRS Pods

Pass No.	Elapsed Time	Avg. Velocity (mph)
1	31 Seconds	4.9
2	29 Seconds	5.3

Figure 4.

Remarks:

1. Figure 4 lists the average speeds of the test load through the Hazard Course.
2. Inspection following the completion of Pass #2 revealed that the pods moved 0.25 inches toward the front on the passenger side.

2. ROAD TRIP:

Remarks:

1. The Road Trip was conducted between the Road Hazard Course Passes #2 and #3.
2. Inspection following the Road Trip revealed that the pods moved an additional 0.25 inches toward the passenger side.

3. PANIC STOPS:

Remarks:

1. The panic stops were conducted during the Road Trip.
2. Inspection following the completion of the forward 5 mph stop revealed that the pods moved 0.25 inches toward the front on the driver's side and 0.25 inches toward the rear on the passenger side.

4. HAZARD COURSE:

Pass No.	Elapsed Time	Avg. Velocity (mph)
3	33 Seconds	4.6
4	31 Seconds	4.9

Figure 5.

Remarks:

1. Figure 5 lists the average speeds of the test load through the Hazard Course.
2. Inspection following the completion of Pass #3 revealed that the pods had moved 0.25 inches toward the passenger side.

5. WASHBOARD COURSE:

Remark: Inspection following the completion of the Washboard Course revealed that the pods moved 0.25-0.75 inches toward the passenger side and 0-0.25 inches toward the front.

Photo 3. Washboard Course Testing of the M872 A4 Semi-Trailer with the MLRS Pods.

B. <u>CONCLUSION</u>:

1. The semi-trailer tie-down rings and anchors performed adequately during testing.

2. The wood deck width on the semi-trailer was adequate to support the MLRS Pods.

5.2

Testing Date: 2 March 2005

Test Specimen: M872 A4 Semi-Trailer

Payload: Eighteen Pallets of 155MM Separate Loading Projectiles

Test Gross Weight: 54,740 pounds (including the M872 A4 Semi-trailer, M1088 tractor, and the 155MM SLP)

Payload Weight: 15,540 pounds

Photo 4. 155MM Separate Loading Projectiles on the M872 A4 Semi-Trailer

A. ON/OFF ROAD TESTS.

1. HAZARD COURSE.

Photo 5. Hazard Course Testing of the M872 A4 Semi-Trailer with the 155MM Separate Loading Projectiles

Pass No.	Elapsed Time	Avg. Velocity (mph)
1	29 Seconds	5.3
2	28 Seconds	5.5

Figure 6.

Remarks:

1. Figure 6 lists the average speeds of the test load through the Hazard Course.
2. Inspections following Pass #2 revealed that the payload had moved 0.25 inches toward the front on the driver's side.

2. ROAD TRIP:

Remarks:

1. The Road Trip was conducted between the Road Hazard Course Passes #2 and #3.
2. Inspection following the completion of the Road Trip revealed no additional movement.

3. PANIC STOPS:

Remarks:

1. The panic stops were performed during the Road Trip.
2. Inspection following the completion of the panic stops revealed no additional movement.

4. HAZARD COURSE:

Pass No.	Elapsed Time	Avg. Velocity (mph)
3	25 Seconds	6.1
4	27 Seconds	5.7

Figure 7.

Remarks:

1. Figure 7 lists the average speeds of the test load through the Hazard Course.
2. Inspection following Pass #3 revealed that the payload had moved 0.25-0.5 inches toward the rear of the trailer.
3. Inspection following Pass #4 revealed that the payload had moved an additional 0.25 inches toward the rear of the trailer on the passenger side.

5. WASHBOARD COURSE:

Remark: Inspection following the completion of the Washboard Course testing revealed that the payload had moved an additional 0.5 inches toward the rear on the driver's side and 0.5 inches toward the front on the passenger side. The payload also moved 0.25 inches toward the passenger side.

Photo 6. Washboard Course Testing of the M872 A4 Semi-Trailer with the 155MM Separate Loading Projectiles

D. CONCLUSION:

1. The semi-trailer tie-down rings and anchors performed adequately during testing.

2. The flat wooden deck on the trailer had sufficient width so that the 155MM Separate Loading Projectiles could be loaded six pallets per row in accordance with drawing 1948 4901/1 "Loading Tie Down, and Unloading Procedures for Separate Loading Projectiles in/on Tactical Vehicles," page 18.

5.3

Testing Date: 3 March 2005

Test Specimen: M872 A4 Semi-Trailer

Purpose: Determine if two Container Roll-In/Out Platforms (CROPs) could be secured to the M872 A4 Semi-Trailer.

Sequence of Events:

a. The empty CROP was loaded onto the front of the trailer using a forklift. The CROP could not be secured to the M872 A4 Semi-Trailer due to the CROP interfered with the forward deck recessed tie-downs.
b. The empty CROP was loaded on the rear of the trailer using a forklift. The CROP interfered with using the recessed tie-downs in the center of the trailer. Also, at the end of the trailer there was not sufficient room to secure and tighten the chains and binders.
c. An empty CROP was loaded onto the trailer using the PLS Truck. The CROP could not be placed far enough forward to secure the CROP at the rear of the trailer. The CROP interfered with using the recessed tiedowns at the end of the trailer.
d. A loaded CROP (24,700 pounds) could not be loaded onto the trailer using the PLS Truck. The rollers on the CROP would drop into the channel of the recessed tie-down rings and misalign when the CROP contacted the end of the deck boards. The CROP could not be properly aligned on the trailer and overhung the side of the trailer.

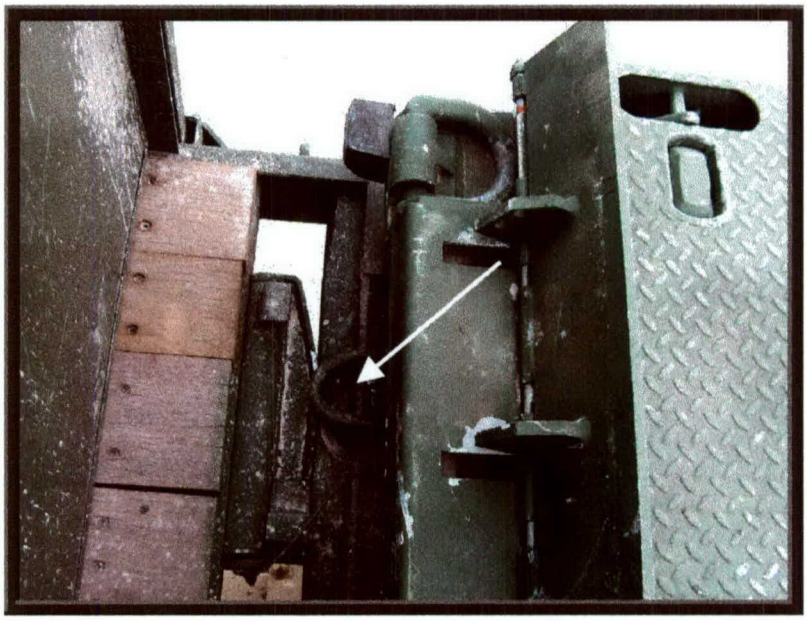


Photo 7. Interference of CROP with the Recessed Tiedowns

Observation: As designed, the M872 A4 Semi-Trailer cannot transport two CROPs.

PART 6 – DRAWINGS

The following drawing represents the load configuration that was subjected to the test criteria.

MLRS

LOADING, TIEDOWN, AND UNLOADING PROCEDURES FOR THE ROCKET POD/CONTAINER (RP/C) FOR THE MULTIPLE LAUNCH ROCKET SYSTEM IN/ON TACTICAL VEHICLES

INDEX

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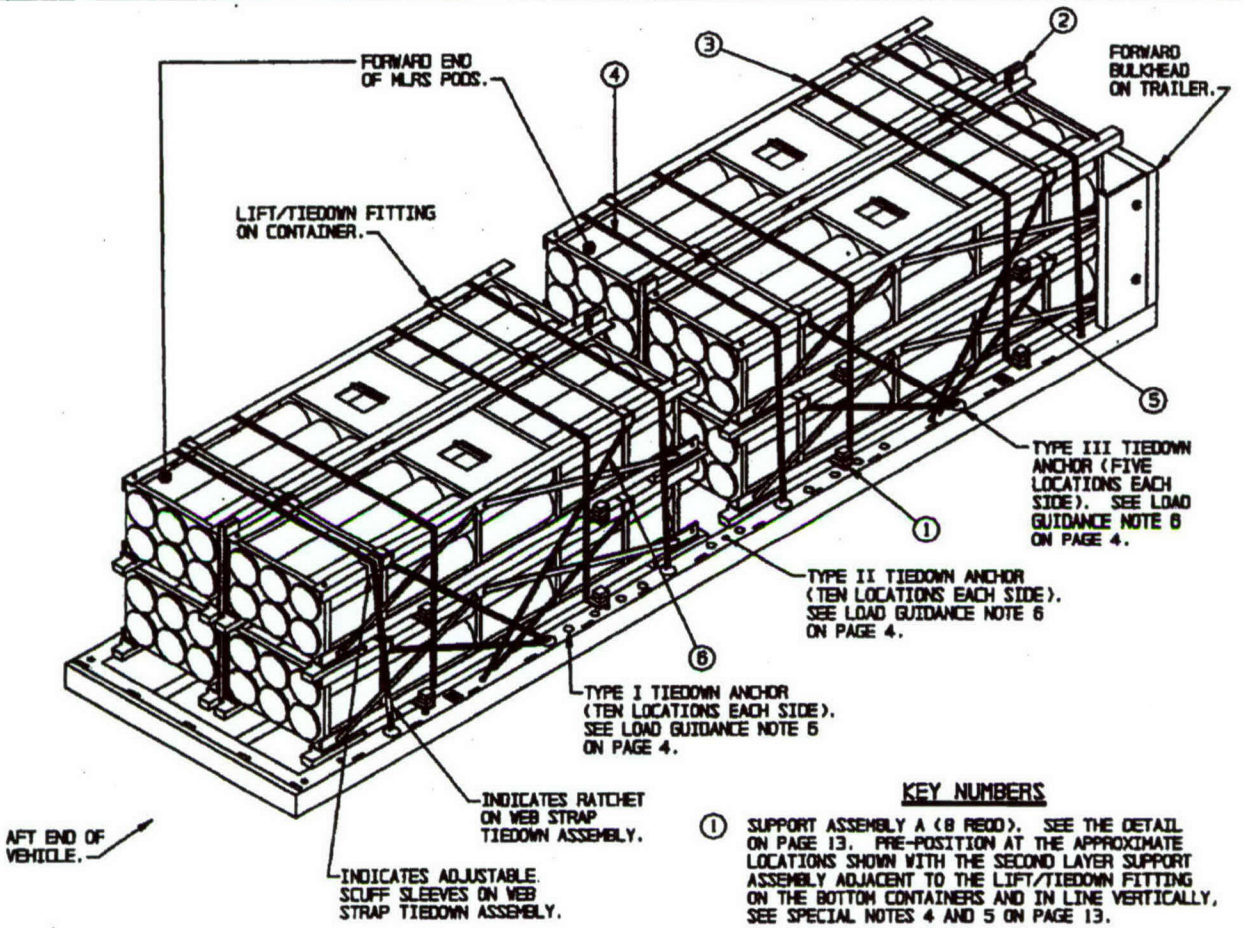


ISOMETRIC VIEW

KEY NUMBERS

① SUPPORT ASSEMBLY A (8 REQD). SEE THE DETAIL ON PAGE 13. PRE-POSITION AT THE APPROXIMATE LOCATIONS SHOWN WITH THE SECOND LAYER SUPPORT ASSEMBLY ADJACENT TO THE LIFT/TIEDOWN FITTING ON THE BOTTOM CONTAINERS AND IN LINE VERTICALLY. SEE SPECIAL NOTES 4 AND 5 ON PAGE 13.

② SPACER ASSEMBLY C (4 REQD). SEE THE DETAIL ON PAGE 13. POSITION ONE ASSEMBLY AS NEAR TO EACH END AS POSSIBLE AND WIRE TIE IN PLACE AT TOP AND BOTTOM OF ASSEMBLY. SEE SPECIAL NOTE 6 ON PAGE 13.

③ WEB STRAP TIEDOWN ASSEMBLY (4 REQD). EACH ASSEMBLY WILL CONSIST OF TWO STRAPS HOOKED TOGETHER TO ENCIRCLE ALL FOUR CONTAINERS AT THE APPROXIMATE LOCATIONS SHOWN, ADJACENT TO THE SUPPORT ASSEMBLIES. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT. NOTE: ASSURE THAT THE SUPPORT ASSEMBLIES A AND SPACER ASSEMBLIES C ARE IN POSITION PRIOR TO RATCHETING STRAPS TIGHT. SEE GENERAL NOTES "D", "E" AND "J" ON PAGE 2.

④ WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF LOAD AT APPROXIMATE LOCATIONS SHOWN, TO A TIEDOWN ANCHOR ON OPPOSITE SIDE OF VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT. SEE GENERAL NOTES "D" AND "E" ON PAGE 2.

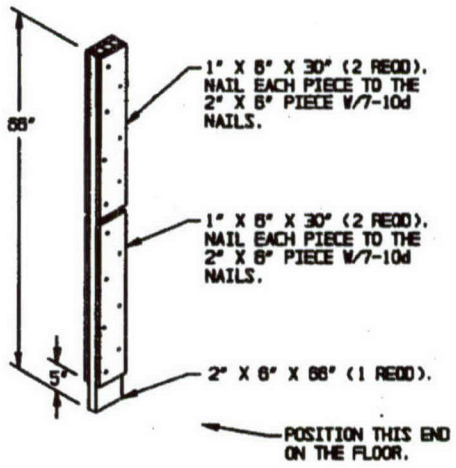
⑤ WEB STRAP TIEDOWN ASSEMBLY (8 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE UP TO A LIFT/TIEDOWN FITTING ON THE BOTTOM CONTAINER AT THE APPROXIMATE ANGLE SHOWN. HOOK THE NON-RATCHET END OF STRAP TO THE VEHICLE TIEDOWN ANCHOR TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT. SEE GENERAL NOTES "D" AND "E" ON PAGE 2.

⑥ WEB STRAP TIEDOWN ASSEMBLY (8 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE UP TO A LIFT/TIEDOWN FITTING ON THE TOP CONTAINER AT THE APPROXIMATE ANGLE SHOWN. HOOK THE NON-RATCHET END OF STRAP TO THE VEHICLE TIEDOWN ANCHOR TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTE "D" AND "E" ON PAGE 2.

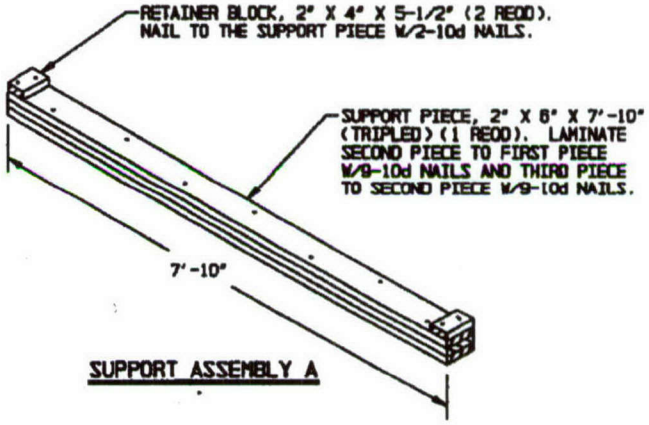
EIGHT CONTAINERS (METHOD II)

SPECIAL NOTES:

1. A MAXIMUM LOAD OF EIGHT CONTAINERS IS SHOWN LOADED ON A 22-1/2-TON M871 SEMITRAILER HAVING DIMENSIONS OF 96" WIDE BY 354" LONG.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY AND VEHICLES OF OTHER DIMENSIONS WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS LOCATED ON THE FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN.
3. POSITION TWO STACKS OF FOUR CONTAINERS EACH AT A LOCATION THAT WILL ALLOW STRAPS MARKED ④ TO BE POSITIONED AT THE APPROXIMATE LOCATIONS SHOWN. NOTE THAT THE AFT END OF THE CONTAINERS ARE POINTING TOWARD THE FORWARD END OF THE VEHICLE. ASSURE THAT THE STACKING PINS ON THE BOTTOM CONTAINERS ARE MATED TO THE HOLES IN THE SKIDS OF THE TOP CONTAINER.
4. POSITION THE SUPPORT ASSEMBLIES A AND THE SPACER ASSEMBLIES C AS LOADING PROGRESSES.
5. THE SUPPORT ASSEMBLY A PIECES ARE REQUIRED TO PREVENT THE SKIDS FROM DEFORMING AND TO PROVIDE STABILITY FOR THE CONTAINERS DURING TRANSPORT. PRE-POSITION ON VEHICLE FLOOR AND/OR ON TOP OF A CONTAINER AS LOADING PROGRESSES.
6. THE SPACER ASSEMBLY A PIECES ARE REQUIRED TO PREVENT CONTACT OF THE LIFT/TIEDOWN FITTINGS ON LATERALLY ADJACENT CONTAINERS. PRE-POSITION THESE PIECES AT THE LOCATIONS SHOWN AS LOADING PROGRESSES.
7. IF THE LOAD IS BEING TRANSPORTED ON AN M872 SEMITRAILER SEE NOTE 7 ON PAGE 4. NOTE THAT THE MAXIMUM LOAD ON THE M872 SEMITRAILER CONSISTS OF 8 CONTAINERS, DUE TO CONTAINER LENGTH.
8. A TOTAL OF 28 WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE.



SPACER ASSEMBLY C



SUPPORT ASSEMBLY A

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	8	31,744 LBS
DUNNAGE		611 LBS
TOTAL WEIGHT		32,355 LBS (APPROX)

EIGHT CONTAINERS (METHOD II)

PROJECT GM 725-80

LOADING, TIEDOWN, AND UNLOADING PROCEDURES* FOR SEPARATE LOADING PROJECTILES IN/ON TACTICAL VEHICLES

INDEX

* THE PROCEDURES DEPICTED WITHIN THIS DRAWING ARE FOR OFF-HIGHWAY USE. HOWEVER, THEY MAY ALSO BE USED FOR ON-HIGHWAY USE, IF DESIRED.

DO NOT SCALE

REVISIONS

dh JDS/WRF

U.S. ARMY AMC DRAWING

JANUARY 1986

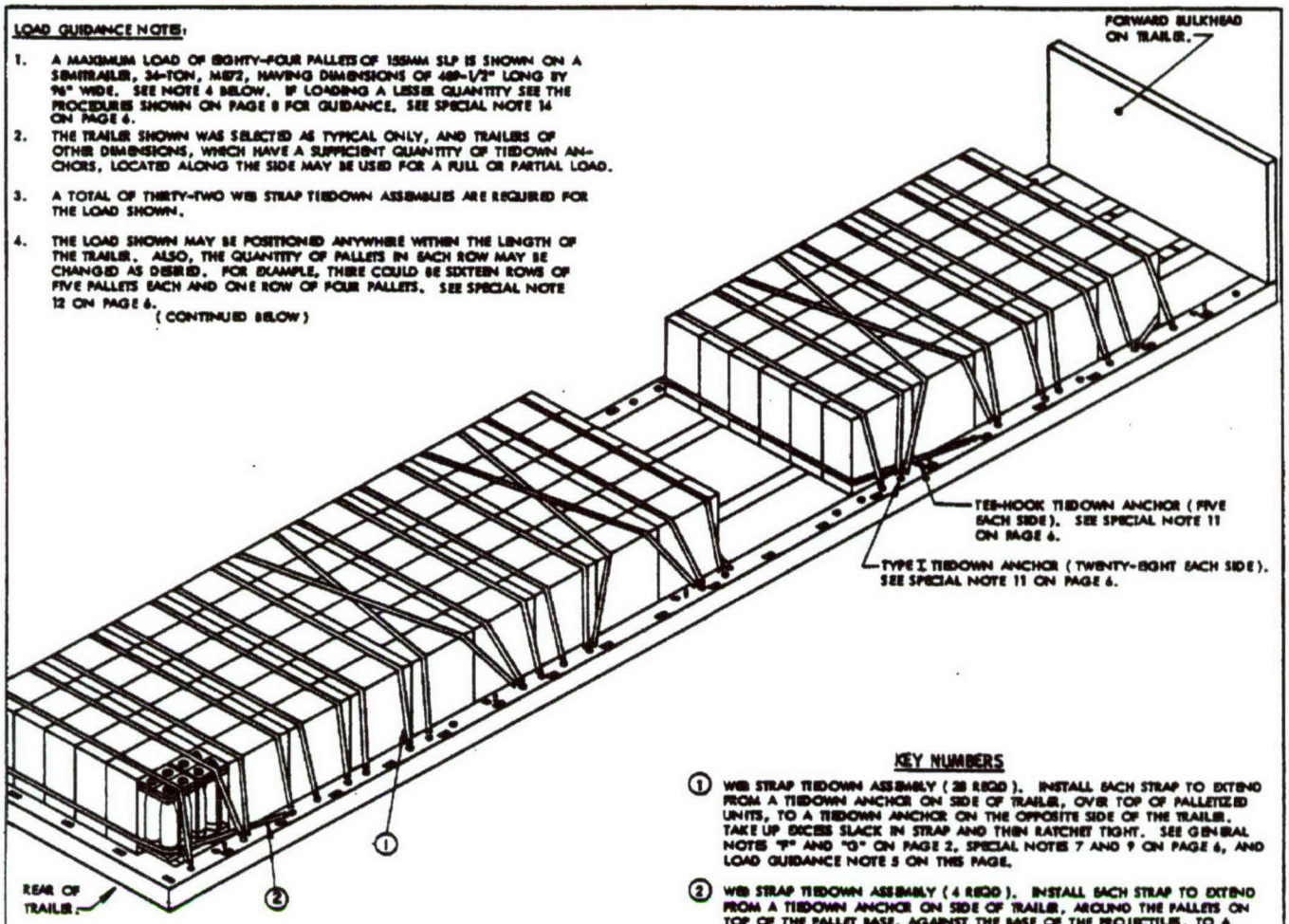
CLASS	DIVISION	DRAWING	FILE
19	48	4901/1	CA 1702

PROJECT CAP-TV 2/1-79

LOAD GUIDANCE NOTES:

1. A MAXIMUM LOAD OF EIGHTY-FOUR PALLETS OF 155MM SLP IS SHOWN ON A SEMITRAILER, 34-TON, M872, HAVING DIMENSIONS OF 489-1/2" LONG BY 96" WIDE. SEE NOTE 4 BELOW. IF LOADING A LESSER QUANTITY SEE THE PROCEDURES SHOWN ON PAGE 8 FOR GUIDANCE. SEE SPECIAL NOTE 14 ON PAGE 6.
2. THE TRAILER SHOWN WAS SELECTED AS TYPICAL ONLY, AND TRAILERS OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ALONG THE SIDE MAY BE USED FOR A FULL OR PARTIAL LOAD.
3. A TOTAL OF THIRTY-TWO WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.
4. THE LOAD SHOWN MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE TRAILER. ALSO, THE QUANTITY OF PALLETS IN EACH ROW MAY BE CHANGED AS DESIRED. FOR EXAMPLE, THERE COULD BE SIXTEEN ROWS OF FIVE PALLETS EACH AND ONE ROW OF FOUR PALLETS. SEE SPECIAL NOTE 12 ON PAGE 6.

(CONTINUED BELOW)



ISOMETRIC VIEW

KEY NUMBERS

(1) WEB STRAP TIEDOWN ASSEMBLY (28 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF TRAILER, OVER TOP OF PALLETIZED UNITS, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE TRAILER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2, SPECIAL NOTES 7 AND 9 ON PAGE 6, AND LOAD GUIDANCE NOTE 5 ON THIS PAGE.

(2) WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF TRAILER, AROUND THE PALLETS ON TOP OF THE PALLET BASE, AGAINST THE BASE OF THE PROJECTILES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE TRAILER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2, SPECIAL NOTE 8 ON PAGE 6, AND LOAD GUIDANCE NOTE 5 ON THIS PAGE.

(LOAD GUIDANCE NOTES CONTINUED)

5. THIS TRAILER IS EQUIPPED WITH TWO DIFFERENT TYPES OF TIEDOWN ANCHORS AS INDICATED IN THE "ISOMETRIC VIEW" ON THIS PAGE. THE LOAD SHOWN ON THIS PAGE REQUIRES THE USE OF FOURTY-SIX TYPE I REMOVABLE TIEDOWN ANCHORS (TWENTY-THREE ON EACH SIDE OF THE TRAILER). SEE SPECIAL NOTE 11 ON PAGE 6.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED 155MM SLP	84	66,948 LBS

PALLETIZED 155MM SLP LOADED ON A SEMITRAILER, 34-TON, M872